



ITEM 17

Executive Staff

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Chief Operations Officer

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Chief Benefits Officer

For Agenda of:
September 21, 2016

September 16, 2016

TO: President and Members
Board of Retirement

FROM: Steve Davis
Deputy Chief Investment Officer

SUBJECT: SCERS' Alternative Assets Performance Review for Periods
Ending March 31, 2016 and June 30, 2016

Recommendation:

It is recommended that your Board receive and file the Cliffwater performance presentation reports for the first quarter of 2016 and the second quarter of 2016, and consider taking action on any recommendations made therein.

Attached are reports including: (1) A presentation by Cliffwater summarizing the quarterly performance review for SCERS' alternative assets; (2) The quarterly Absolute Return performance report for the quarter ending June 30, 2016 and the period ending August 30, 2016; (3) The quarterly Private Equity performance report for the period ending March 31, 2016; (4) The quarterly Real Assets performance report for the period ending March 31, 2016; and (5) The quarterly Opportunities portfolio performance report for the period ending March 31, 2016. As you will recall, the time gap between the close of the period covered by the reports and the present is a function of the lag in performance reporting across the alternative assets industry.

This memorandum will provide a recap of each alternative asset class, as presented within Cliffwater's monthly and quarterly performance reports. The memorandum will also highlight recent investments made by SCERS within the alternative asset classes, and how these investments tie into the asset class structure and the market environment.

Cliffwater, with commentary from Staff, will be presenting the attached reports at the Board meeting.

Market Recap:

Financial markets were fairly range bound during the second quarter of 2016 ('Q2'16'), until late in the quarter when the surprise June 23rd Brexit vote took place. Markets dropped precipitously upon the UK vote to leave the European Union due to the uncertainty that it created, but quickly rebounded to end the quarter as the initial shock faded upon the realization that any material economic impact would be years away. The British pound did not recover though, and fell to a 31 year low versus the U.S. dollar during the quarter.

The Federal Reserve ('Fed') met twice during the quarter, and kept any increases in the Federal Funds rate on hold, and in a range between 0.25% and 0.50%. Indications from the Fed were that the pace of job gain improvement in the labor market had slowed, even though the unemployment rate dropped to 4.7%, the lowest level since December 2007. While economic activity appeared to pick up during the quarter, Fed Chair Janet Yellen expressed concerns that considerable uncertainty remains within the economic outlook.

For the quarter, the returns for the Russell 1000 Index, the MSCI EAFE Index, the MSCI Emerging Markets Index, the Barclays Aggregate Index, the Bloomberg Commodity Index, the HFRI Fund-of-Funds Index (absolute return index) and the Cambridge Associates U.S. Private Equity Index were +2.5, -1.5%, +0.7%, +2.2%, +12.8%, +0.8% and +0.2% (lagged one quarter), respectively.

In the fixed income markets during the second quarter, U.S. Treasury yields declined significantly on the long end of the curve, especially subsequent to the Brexit vote and the risk aversion that ensued. Yields on 10-year Treasuries ended the quarter at 1.47%, compared to 1.77% to end the prior quarter, which resulted in a flattening of the yield curve. Spread sectors generated mostly positive returns during the quarter, with lower quality credits producing the strongest returns.

Absolute Return:

The Absolute Return asset class generated positive returns for the second quarter, mostly in the range of global equity and fixed income returns. The HFRI Fund of Funds Composite Index was up 0.8% in Q2'16, compared to returns for the S&P 500, MSCI EAFE, MSCI Emerging Market and Barclays Aggregate Indices of +2.5%, -1.5%, +0.7% and +2.2%, respectively.

After a difficult first quarter, SCERS' Absolute Return portfolio produced better results in the second quarter, returning +1.19%. This performance was slightly below SCERS' long-term absolute return benchmark, 90-day T-Bills + 5%, which was up 1.29%, and above SCERS' short-term absolute return benchmark, the HFRI Fund of Funds Composite Index, which was up 0.75%.

The SC Absolute Return Fund, LLC ('SCARF'), which invests in a portfolio of absolute return funds diversified by strategy and across geographies, and managed by Grosvenor Capital Management, was up 1.68% in the quarter, outperforming both the HFRI Fund of Funds Composite Index benchmark and the 90-day T-Bills +5% benchmark.

During the quarter, SCARF B, a multi-strategy absolute return portfolio which serves as an interim absolute return component to close the gap between SCERS' actual Absolute Return allocation and its target allocation of 10%, and also managed by Grosvenor, was up 0.56%, which underperformed both the HFRI Fund of Funds Composite Index and 90-day T-Bills +5% benchmark. Over the long-term, SCARF is expected to outperform SCARF B due to the latter's inherent 'interim' features, including a priority to provide liquidity to fund direct absolute return investments as needed.

SCERS' direct absolute return program was up 1.14% during the first quarter. All strategies produced positive returns during the quarter except Brevan Howard LP (discretionary global macro) and AQR DELTA Fund II, LP (multi-strat), which were down 0.31% and 1.67%, respectively. The strongest performers were Third Point Partners Qualified, LP (event driven) and Elliott International Limited (event driven), which returned +4.45% and +2.27%, respectively.

During the quarter, SCERS did not make any direct absolute return investments, but Staff and Cliffwater are in the process of performing due diligence on investment managers within the global macro systematic segment.

Third quarter to date, through August 30, 2016, SCERS' total Absolute Return program is up 1.88%, with the direct absolute return program up 1.84%, and the SCARF portfolios up 1.90%. These numbers compare to the HFRI Fund of Funds Composite Index and the 90-day T-Bills +5%, which are up 1.73% and up 0.85, respectively.

For the concluded fiscal year ending June 30, 2016, SCERS' total Absolute Return program was down 4.31%, with the direct absolute return program down 1.01%, and the SCARF portfolios down 6.96%. These numbers compare to the HFRI Fund of Funds Composite Index and the 90-day T-Bills +5%, which were down 5.23% and up 5.19%, respectively. Investment strategies within the Absolute Return portfolio delivered polarizing results. Many of SCERS' more correlated strategies delivered negative returns. These managers tend to own more value oriented, catalyst driven, small cap names, which were a poor performing segment of the market during the year. SCERS' direct absolute returns were stronger than those of the SCARF portfolios, as the former tends to have more exposure toward less correlated absolute return strategies, while the latter tend to have greater exposure toward more growth oriented absolute return strategies. Within the direct portfolio, SCERS' two worst performing managers were JANA Partners Qualified, LP (event driven – activist equity) and OZ Domestic Partners II, LP (equity biased multi-strat), which returned -12.30% and -7.15%, respectively. Two of SCERS' best performing managers run more uncorrelated and diversifying strategies, and did very well during the

fiscal year. These included Laurion Capital, Ltd (market neutral – volatility arbitrage) and AQR DELTA Fund II, LP (defensive biased multi-strat), which returned +7.56% and +7.11%, respectively.

SCERS takes a hybrid approach to constructing the Absolute Return program through both the direct absolute return portfolio and the Grosvenor diversified SCARF accounts. SCERS' Absolute Return portfolio acts as a diversifier to SCERS' total fund, and the objective of SCERS' Absolute Return portfolio is to generate returns near SCERS' total fund return objective with less volatility and less downside risk. Maintaining a diversified Absolute Return portfolio with a mix of positively and negatively correlated strategies assists SCERS in achieving this objective.

SCERS' Absolute Return weightings are heavily influenced by both the SCARF portfolios managed by Grosvenor, and SCERS' direct program. As the direct absolute return portfolio increases in size, the SCARF portfolios will have less of an influence on SCERS' overall strategy weights. However, Staff anticipates that the SCARF exposure will maintain an allocation within SCERS' Absolute Return portfolio over the long-term. SCERS' aggregate Absolute Return allocations are in-line with the ranges set forth in SCERS' investment policy statement for the Absolute Return asset class.

Private Equity:

Through March 31, 2016, the net investment rate of return ('IRR') of SCERS' Private Equity portfolio is 9.67% since inception, which compares to the Cambridge Associates Private Equity Index return of 9.74%. The multiple of total value to paid in capital ('TVPI') is 1.22x since inception. The long-term benchmark (Russell 1000 + 3%) has a 14.0% IRR over this period. SCERS' Private Equity return continues to show improvement and is in-line with the Cambridge benchmark return, but as you will recall, SCERS' Private Equity portfolio is still in the earlier phase/cycle of investments (j-curve effect) compared to the index, especially for the direct program which was initiated in 2011. These performance metrics are displayed in the investment summary page of Cliffwater's private equity quarterly report.

SCERS' legacy fund of funds ('FoFs') investments are the most mature private equity allocations within the Private Equity portfolio. HarbourVest's vintage 2006 funds have generated a net IRR of 10.0%, outperforming the Cambridge Fund of Funds benchmark by 2.6%. HarbourVest's performance has been positively influenced by significant allocations to discounted secondary investments post the 2008 Crisis. HarbourVest's 2006 vintage year funds have drawn down 93% of capital in aggregate. SCERS' vintage year 2008 funds managed by Abbott Capital, Goldman Sachs and HarbourVest International, which did not invest meaningfully in secondaries, have demonstrated mixed results, with net IRRs of 9.4%, 10.2% and 9.6%, respectively. These compare to benchmark returns of 12.7%, 12.7% and 8.7%, respectively. Abbott has drawn down 86% of capital, and has demonstrated continued performance improvements, but still trails its benchmark.

Goldman Sachs has drawn down 83% of capital and is showing more robust returns than Abbott, but also trails its benchmark. HarbourVest International, which has drawn down 85% of capital, has generated performance ahead of its benchmark.

Within SCERS' direct private equity portfolio, the vintage year 2011, 2012 and 2013 funds are experiencing solid early performance. The net IRRs of the funds within these vintage years are 18.8%, 10.2% and 7.7%, respectively, versus the benchmark IRRs of 11.1%, 11.3% and 7.3%. Strong performers include Waterland Private Equity Fund V (33.8% net IRR); Khosla Ventures IV (18.3% net IRR); New Enterprise Associates 14 (17.9% net IRR); and RRJ Capital Master Fund II (13.9% net IRR).

As of March 31, 2016, SCERS' private equity FoF's have called and invested \$209.7 million in capital in comparison to the \$236.6 million in SCERS commitments. SCERS' direct private equity funds have called and invested \$324.3 million in comparison to the \$815.5 million in SCERS commitments. SCERS' current Private Equity portfolio has a fair value of \$486.4 million, compared to the target allocation of approximately \$768 million, which equates to a 6.3% actual allocation versus the target allocation of 10.0%. While SCERS continues to make progress in allocating to the asset class, given the unique cash flow characteristics of private equity, in order to progress in closing the gap between SCERS' actual and target allocation, SCERS will need to continue on the path of making consistent commitments on an annual basis over the next several years. The graphs in Section A-2 in Cliffwater's private equity report provide greater details related to the investment gap between actual invested capital amounts and the policy target, including: (1) Commitments in only 2 vintage years prior to 2011; (2) 49% of capital drawn down to date; and, (3) The start of distributions that serve to offset contributions and lower the market value of existing investments. However, SCERS continues to make good progress in committing to funds on a direct basis, and future commitments and investments within the asset class over the next few years will move SCERS close to its 10% target allocation.

Page A-1 in Cliffwater's private equity report displays the fair value of SCERS' Private Equity investments across strategies and regions. While it is instructive to assess the current portfolio by investment strategy, sector and region, these values will continue to change dynamically, as more capital is called by SCERS' existing private equity commitments, and as more commitments are made. Accordingly, Staff and Cliffwater will continue to assess and consider commitments to the direct program in light of the current portfolio, the projection of the future fair values of investments, and the best available private equity firms seeking to raise capital each vintage year.

During Q1'16, SCERS committed \$25 million to Atalaya Special Opportunities Fund VI, L.P. (distressed debt), a follow on investment to SCERS' 2013 investment in Atalaya Special Opportunities Fund V, L.P. During Q2'16, SCERS made the following direct commitments: (1) \$25 million to Thoma Bravo Fund XII, L.P. (control software buyout), a

follow-on investment to SCERS' 2014 investment in Thoma Bravo Fund XI; and (2) €13.5 million to Marlin Heritage Europe, L.P. (European control buyout).

When building the Private Equity portfolio, Staff and Cliffwater seek to align with private equity managers that take a value-add active approach, either through majority (control) or minority investments, as private equity is an asset class where the most successful managers add value by providing meaningful positive change for underlying portfolio companies. As we get later in the current cycle, Staff and Cliffwater continue to be cognizant of inherent risks, including increasing valuations (particularly for entry multiples), larger amounts of investor capital pursuing the top rated funds, larger fund sizes to accommodate increased investor interest, and the correlation of more cyclical sectors to the cycle. This is translating to an increasingly measured and selective approach to allocating capital within the asset class by Staff and Cliffwater.

At the market level, for the first quarter, U.S. private equity generated returns of 0.2%. Buyout was the best performing U.S. private equity strategies, and was up 0.8%. Venture capital was the worst performing strategy, and was down 3.3%. Distressed was up 0.2%. For comparative purposes, the Russell 3000 Index (public market benchmark) was up 1.0% during the first quarter. Over longer-term periods, private equity has outperformed over the 5-year period by 50 bps and over the 10-year period, by 3.9%, compared to the Russell 3000 Index.

Real Assets:

Through March 31, 2016, SCERS' Real Assets asset class has generated a net IRR of 5.07% compared to SCERS' real assets portfolio benchmark (CPI+5%) IRR of 7.16%, and SCERS' TVPI is 1.14x. The Real Assets asset class includes allocations to several sub-asset classes including: (1) Core real estate (7% target); (2) Private real assets (6% target); and (3) Commodities (2% target). The Real Assets asset class has been structured with significant flexibility to allow sub-asset class allocations to move within meaningful ranges, which permits SCERS to take exposure down in one segment in favor of attractive risk-adjusted returns in another segment. Also included within the Real Assets asset class are a diversified set of investment structures, which include commingled funds and customized separate accounts, the latter of which gives SCERS customized guidelines, the ability to underwrite a manager's due diligence on specific investments, special rights and better terms than investing in a commingled fund.

The performance of this asset class is heavily driven by SCERS' core real estate portfolio. On page C-1 of Cliffwater's real assets report, each fund is listed by vintage year or inception date and the IRR is compared to the peer benchmark. For example, BlackRock Realty Portfolio I has generated a net IRR of 12.0%. A more comprehensive summary of SCERS' real estate investments can be found within the Townsend quarterly performance report and Staff real estate cover memo, but a high level evaluation and summary is

presented within the Cliffwater quarterly report as well. Overall, the core real estate portfolio has generated a net IRR of 8.3%.

SCERS' commodities portfolio has generated a -8.6% net IRR since inception in 2008, though it has outperformed the Bloomberg Commodity Index, which has produced an IRR of -9.9%. SCERS' investment in the Blackstone Resources Select fund has driven the outperformance on a relative basis as the fund has produced a -6.3% net IRR and 0.61x TVPI multiple since inception. SCERS' investment in the Gresham Strategic Commodities Fund has produced a net IRR of -11.4% and 0.39x TVPI multiple since inception. A primary attribution of the poorer performance of Gresham is due to the fact that the inception date of the portfolio is May of 2008, about the time that oil peaked prior to the global financial crisis, and all of SCERS' assets in the fund were deployed at once at that time.

As mentioned in previous reports, SCERS' commodities portfolio was significantly impacted by the dramatic sell off in commodity prices in late 2014 and into the early parts of 2016. The catalyst for the sell-off was mostly supply driven, but softening demand also contributed. Oil prices have rebounded over much of 2016, but continued volatility should be expected within the space. As you will recall, SCERS' portfolio has commodity exposure through direct investments to commodity managers, the SSGA Real Assets Strategy (proxy for the Real Assets asset class which has exposure to commodities and natural resource stocks), and indirect energy exposure through SCERS' various asset classes.

Within private real assets, Staff and consultants continue to seek to identify unique investment opportunities with attractive risk adjusted returns, lower correlation to the broader economy, attractive cash flow components and the potential to be a hedge against inflation. These investments can be structured as customized separate accounts (with larger commitment sizes) or closed-end commingled funds. Examples of the former include a \$100 million commitment in Q1'15 to a debt backed by real assets strategy managed by Atalaya Capital Management, and a \$100 million commitment to a strategy managed by Pantheon Investments in Q2'14, that makes secondary investments and co-investments in private real assets.

During Q1'16, SCERS committed (1) \$70 million to Townsend Real Estate Fund, LP (open-end core real estate); and (2) \$40 million to Brookfield Infrastructure Fund III, LP (core infrastructure). During Q2'16, SCERS did not make any Real Assets commitments.

Within the Real Assets asset class, the State Street Global Advisors ('SSGA') Real Assets Strategy is used as the proxy in the overlay program to replicate real assets exposure. The allocation to this proxy is large (\$353 million as of March 31, 2016), due to the large gap between the actual and target allocation within the private real assets component of the asset class, but it does continue to come down as more commitments are made in the

asset class. The proxy is mostly comprised of liquid publicly traded securities which includes a blend of commodities, global infrastructure stocks, global natural resource stocks, Treasury Inflation Protected Securities ('TIPS'), global REITs, and midstream energy focused master limited partnerships ('MLPs'). Since the SSGA Real Assets Strategy is a proxy and not a permanent component of Real Assets, Cliffwater includes two versions of its performance summary (section C-1) within the real assets performance report, one including the SSGA Real Assets strategy, and one excluding the strategy. The since inception net IRR for Real Assets including the overlay strategy is 5.07%, while the return excluding the overlay strategy is 7.63%.

The target allocation for private real assets is 6.0%, and while approximately 7.6% has been committed (as of March 2016), only 1.3% in capital has been drawn and invested to date. Fully building out SCERS' allocation in private real assets is expected to take place by 2019, but much of the current gap is anticipated to be filled over the next year and a half as already committed capital is drawn. In the meantime, utilizing the proxy does expose SCERS to basis risk to the return and risk characteristics of the real assets asset class. This is particularly evident during dislocated environments, such as the recent experience in the energy space.

With respect to the broad real assets markets, during Q1'16 returns were mixed. Private energy partnerships returned -2.1%, listed infrastructure returned +8.2%, MLPs returned -6.5%, farmland returned +1.4% and timberland returned -0.3%.

Opportunities:

SCERS' Opportunities portfolio has generated a net IRR of 8.73% as of March 31, 2016, which has outperformed SCERS' long-term benchmark (SCERS' actuarial rate of return) of 7.5%.

SCERS' investments in several distressed debt funds during and after the dislocation caused by the global financial crisis have outperformed SCERS' opportunities benchmarks and have produced a net IRR of 18.9% as a group. Most of these are vintage year 2007, 2008 and 2009 funds which have completed the distribution of capital and gains back to SCERS.

The other legacy component to the Opportunities asset class are several value-add real estate funds that SCERS invested in during the 2006/2007 period. These funds have significantly underperformed SCERS' Opportunities benchmarks and, as a group, have generated a net IRR of 0.56%. UBS Allegis Value Trust, AEW Value Investors II, L.P., and Hines US Office Value Added Fund II, L.P. have generated net IRRs of 2.8%, 6.1% and -8.0%, respectively. The aggregate poor returns of these funds is in part due to the poor vintage years where SCERS' investments were timed close to the peak of the real estate market, as well as the high amounts of leverage utilized by these strategies. Hines' returns are the worst of the group due to its focus on the battered commercial office

property sector. The returns of UBS and AEW, while trailing the benchmark, have recovered to where they are generating positive net IRRs.

Over the past few years, SCERS has made commitments to several value-add and opportunistic real estate funds, which draw capital from the Real Assets asset class, but which have not generated meaningful returns to date given that minimal capital has been drawn and invested. Staff and Townsend believe that the recent value-add and opportunistic real estate investments have been made at a better point in the cycle than the funds which were committed to in 2006 and 2007, and also represent better relative value opportunities compared to many within core real estate. An example of a fund that is beginning to show some meaningful returns is KKR Real Estate Partners America, which is generating a net IRR of 20.8%.

During Q1'16, SCERS did not make any Opportunities commitments.

We will be happy to answer any questions you might have.

Respectfully submitted,

Concur:

Steve Davis
Deputy Chief Investment Officer

Richard Stensrud
Chief Executive Officer

Attachment



INVESTMENT ADVISORY SERVICES

Los Angeles • New York

Sacramento County Employees' Retirement System Quarterly Performance Review

September 21, 2016



Executive Summary

Absolute Return Portfolio Performance Summary – as of August 31, 2016

The Absolute Return portfolio has returned -0.13% CYTD and -1.53% for the 1 year period ending August 31, 2016

- Relative performance comparisons remain positive, though absolute performance is challenging
 - Outperforming the HFRI Fund of Funds Index by 76 bps (CYTD) and 46 bps (1 year)
 - Hedge funds struggled to generate alpha over the last year

The direct portfolio outperformed the Grosvenor accounts over the last year

- +1.46% return for the direct portfolio
 - Lakewood (+7.7%), Elliott (+6.3%), and Third Point (+5.0%) led performance over the last year
 - AQR DELTA (+4.9%) and Laurion (+3.5%) also produced solidly positive returns
 - Performance was hurt by JANA (-5.4%), Brevan Howard (-5.3%), and OZ (-2.4%)
 - Claren Road's negative impact was lessened by SCERS' redemptions from the fund, which started in September 2015
- -3.92% return for the Grosvenor separate accounts
 - SCARF A returned -3.8% while SCARF B returned -4.2%
 - The third Grosvenor portfolio is residual holdings from SCERS' previous fund of fund investment (results not meaningful)

Longer-term performance results remain positive, though lag the long-term T-bill + 5% benchmark

- 3 year annualized return of 2.53% for the Absolute Return portfolio
 - The HFRI Fund of Funds Index returned 2.40% over this period
 - 5.10% return for SCERS' long-term benchmark of T-bills + 5%

SCERS' staff and Cliffwater also track the portfolio's risk characteristics against the MSCI ACWI

- Expect AR portfolio to have half the volatility of the ACWI, with a correlation of 0.5 or less, over the long term
 - The AR portfolio is meeting its volatility objective; correlation is slightly higher than target
 - Portfolio standard deviation of 3.59% compared to the ACWI standard deviation of 11.62% since December 2011
 - Portfolio correlation with the ACWI has been 0.69, with a beta of only 0.21

Absolute Return Portfolio Performance – as of August 31, 2016

Fund	Market Value	Actual %	Returns								Std Dev	Sharpe Ratio	Incep Date
			Aug	QTD	YTD	FYTD	1 Year	3 Year	5 Year	Incep			
Market Neutral													
Laurion Capital, Ltd.	40,178,977	5.5%	-0.21%	-0.89%	-2.36%	-0.89%	3.49%	-	-	5.68%	5.93%	0.89	Mar-14
Credit/Distressed													
Claren Road Credit Partners, LP	3,748,474	0.5%	-0.24%	-0.53%	-2.62%	-0.53%	-8.15%	-8.10%	-	-3.93%	6.96%	-0.59	Feb-12
Event Driven													
Elliott International Limited	45,163,869	6.2%	1.09%	2.03%	6.65%	2.03%	6.33%	6.24%	-	7.32%	3.68%	1.84	Apr-12
JANA Partners Qualified, L.P.	36,351,580	5.0%	1.01%	2.97%	-2.96%	2.97%	-5.43%	1.11%	-	1.20%	8.66%	0.14	Jul-13
Third Point Partners Qualified L.P.	41,802,649	5.7%	0.90%	3.87%	6.22%	3.87%	4.97%	6.86%	-	11.09%	7.78%	1.35	May-12
Equity Long/Short													
Lakewood Capital Partners, LP	39,620,930	5.4%	2.38%	4.57%	4.96%	4.57%	7.74%	7.54%	-	6.62%	7.86%	0.81	Jul-13
Macro-Discretionary													
Brevan Howard LP	33,946,647	4.6%	-0.22%	-1.39%	-2.54%	-1.39%	-5.30%	-	-	-1.21%	4.92%	-0.30	Mar-14
Multi-Strategy													
AQR DELTA Fund II, LP	47,704,917	6.5%	0.16%	1.24%	-1.47%	1.24%	4.86%	7.37%	-	5.43%	5.53%	0.92	May-13
OZ Domestic Partners II, L.P.	40,324,910	5.5%	2.05%	2.63%	0.05%	2.63%	-2.39%	3.38%	-	6.54%	4.81%	1.27	Jan-12
Direct Hedge Funds Portfolio	328,842,953	44.8%	0.88%	1.84%	0.97%	1.84%	1.46%	3.63%	-	5.49%	3.39%	1.49	Jan-12
Fund of Funds													
Grosvenor Institutional US Hedged Fund	291,422	0.0%	-0.35%	-0.73%	1.19%	-0.73%	-6.76%	-1.87%	0.89%	2.24%	7.44%	0.11	Sep-04
Grosvenor SC Absolute Return Fund LLC	242,592,379	33.1%	1.55%	2.15%	-0.50%	2.15%	-3.76%	1.60%	-	4.68%	4.41%	0.98	Dec-11
Grosvenor SC Absolute Return Fund LLC Series B	162,112,577	22.1%	1.09%	1.54%	-1.78%	1.54%	-4.16%	1.68%	-	2.97%	3.71%	0.71	Feb-13
Fund of Funds Portfolio	404,996,378	55.2%	1.37%	1.90%	-1.02%	1.90%	-3.92%	1.60%	3.94%	3.86%	6.19%	0.37	Sep-04
SCERS Absolute Return Portfolio	733,839,331	100.0%	1.15%	1.88%	-0.13%	1.88%	-1.53%	2.53%	4.39%	4.04%	6.09%	0.40	Sep-04
Benchmarks													
3 Month T-Bills+5%			0.42%	0.85%	3.48%	0.85%	5.23%	5.10%	5.09%	6.36%	0.52%	-	Sep-04
HFRI Fund of Funds Composite Index			0.17%	1.73%	-0.89%	1.73%	-1.99%	2.40%	2.45%	2.91%	5.31%	0.25	Sep-04
Market Indices													
Libor3Month			0.07%	0.13%	0.45%	0.13%	0.60%	0.37%	0.37%	1.71%	0.54%	-	Sep-04
Barclays Aggregate Bond Index			-0.11%	0.52%	5.87%	0.52%	5.99%	4.38%	3.25%	4.56%	3.14%	0.88	Sep-04
Barclays High Yield Credit Bond Index			2.09%	4.85%	14.34%	4.85%	9.07%	5.40%	7.48%	7.73%	9.94%	0.63	Sep-04
S&P 500 TR			0.14%	3.83%	7.82%	3.83%	12.55%	12.31%	14.68%	8.03%	14.22%	0.50	Sep-04
MSCI AC World Index Free - Net			0.34%	4.66%	5.95%	4.66%	7.24%	6.74%	8.32%	6.54%	15.97%	0.37	Sep-04
MSCI EAFE - Net			0.07%	5.14%	0.49%	5.14%	-0.12%	2.47%	5.00%	5.12%	17.62%	0.28	Sep-04
MSCI EMF (Emerging Markets Free) - Net			2.49%	7.64%	14.55%	7.64%	11.83%	1.12%	-0.42%	8.68%	22.99%	0.41	Sep-04

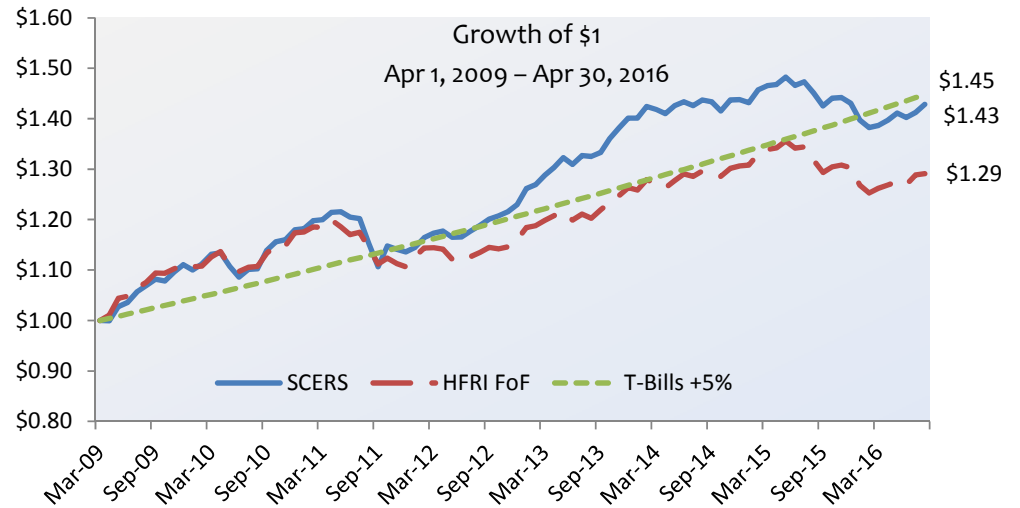
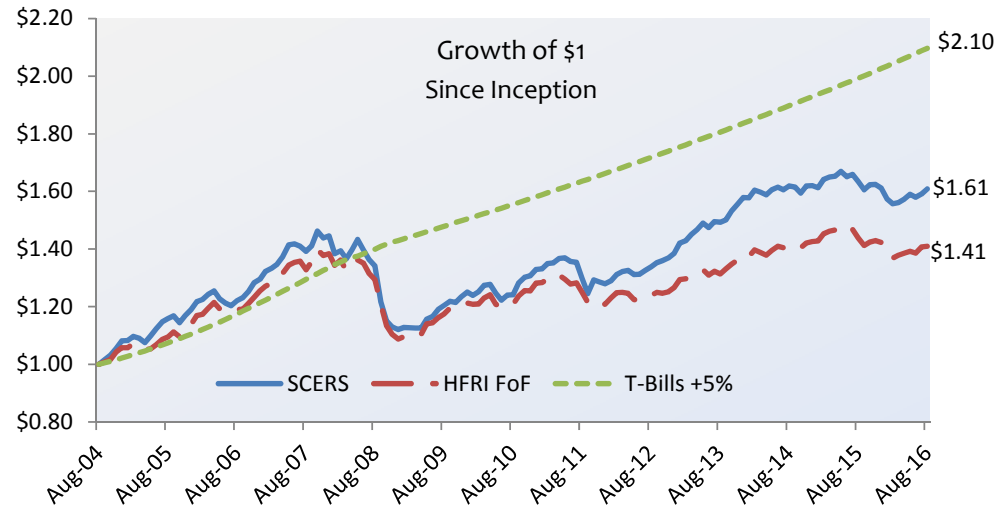
Absolute Return Portfolio Performance – as of August 31, 2016

The Absolute Return portfolio has outperformed the Fund of Funds Index, with slightly higher volatility, since the program's inception in 2004

- Outperformance has increased since redesigning the portfolio at the end of 2011

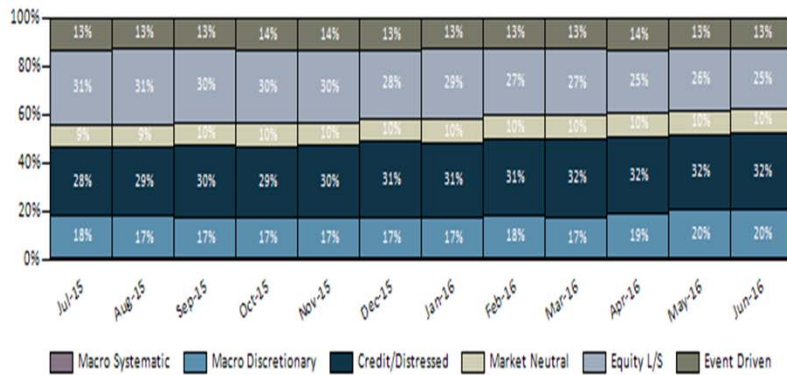
The Absolute Return portfolio's performance since the '08 Financial Crisis has dipped below that of its long-term T-bills + 5% benchmark

- Performance remains ahead of the Fund of Funds Index over this period

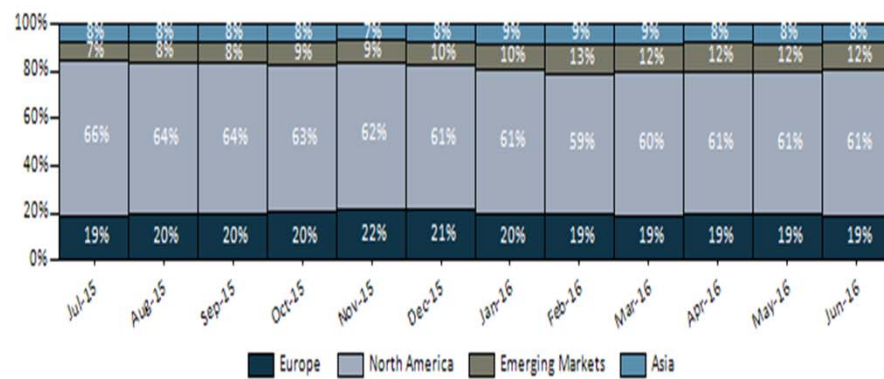


Absolute Return Portfolio Characteristics – as of June 30, 2016

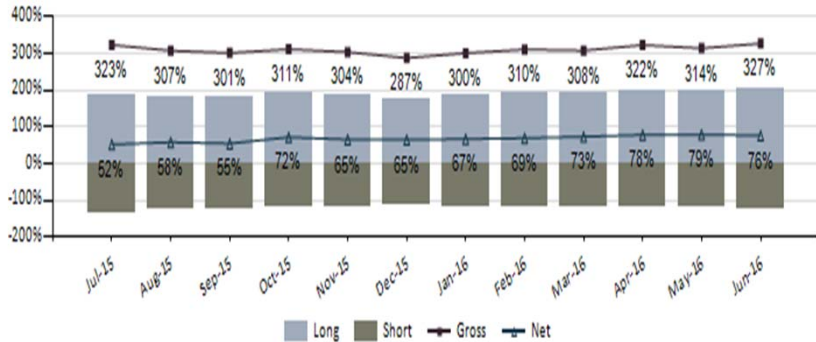
Portfolio “Look Through” Strategy Allocations



Portfolio Geographical Breakdown



Portfolio Leverage



The SCERS Absolute Return portfolio is adequately diversified among strategies and geographies

- However, planning to add more market neutral and systematic macro exposure in the direct portfolio

Portfolio leverage remains appropriate and in-line with leverage for other large institutional investors

- 327% gross exposure, 76% net exposure
- Decrease in gross exposure and increase in net exposure over the last year driven in part by the partial redemption from Claren Road

Private Equity Portfolio – as of March 31, 2016

The Private Equity portfolio's net IRR since inception is 9.67%, versus the Cambridge Associates benchmark IRR of 9.74%

- The long-term benchmark (Russell 1000 + 3%) has a 14.00% IRR over this period

The private equity portfolio reported solid gains during a quarter that saw a modest uptick in global equity markets

- Strongest gains came among venture capital/growth and opportunistic credit funds
 - The Summit Credit funds (I & II), TOP III, Spectrum Equity VII, and Khosla V reported the largest gains during the quarter
- Also seeing strong distributions from a number of the direct fund investments as well as the fund of funds
 - RRJ II, TOP III, Summit Credit, and Athyrium led distributions within direct; good distributions from the fund of funds

Performance of the direct fund investments has been strong, still too early to gauge ultimate results

- Double-digit net IRRs for the first vintage years of direct: 18.8% (2011) and 10.2% (2012)
 - Waterland V (33.8%), Khosla IV (18.3%), NEA 14 (17.9%) and RRJ II (13.9%) are leading performance

The fund of funds reported solid gains overall during the quarter

- Aggregate net IRR and total value (TVPI) increased slightly during the quarter
 - The aggregate fund of funds' net IRR is 9.91% with a 1.39x TVPI
- Abbott VI and Goldman Sachs X reported gains while the HarbourVest funds were mostly flat for the quarter
 - HarbourVest VIII has generated the best relative performance, HarbourVest International also leads its benchmark
- Abbott Capital and Goldman Sachs continue to lag peer vintage year fund of funds
- The fund of funds comprise less than half (37%) of the current fair value of the Private Equity portfolio

Changes during the quarter

- SCERS committed \$25 million to Atalaya Special Opportunities VI (special situation debt and lending) during Q1 2016
 - SCERS also committed \$30 million to Thoma Bravo XII (IT focused buyouts) in Q2 2016
- \$29.5 million in new contributions, \$7.2 million in distributions
- Portfolio IRR decreased 0.61% while the total portfolio gain increased by \$2.7 million

Private Equity Portfolio Characteristics as of March 31, 2016

The SCERS Private Equity portfolio is diversified by strategy and geography

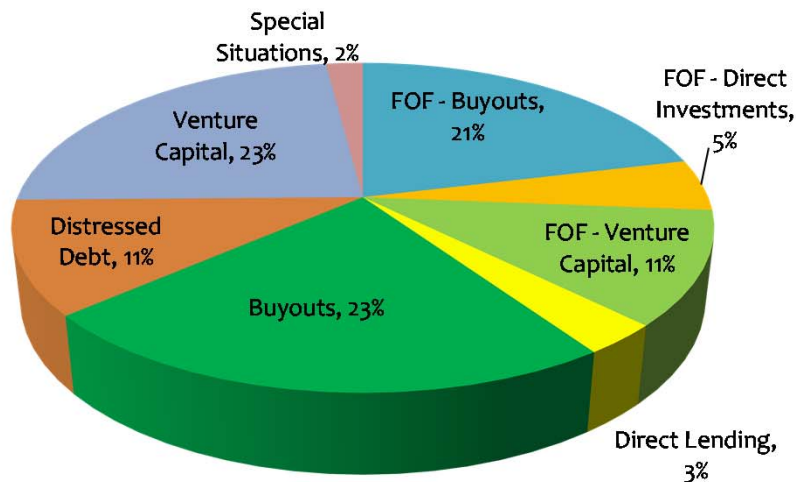
- Investments remain focused in North America, with meaningful exposure to Europe

Exposure to direct fund investments (as opposed to fund of funds) continues to increase

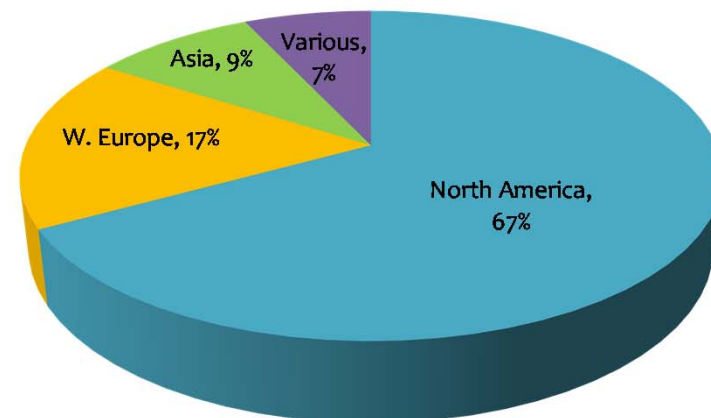
- Investments from direct private equity funds represent 63% of the total portfolio's value as of March 31, 2016

Portfolio strategy and geographic allocations, based on fair market value of invested capital, shown below

Market Value Strategy Exposure*



Market Value Geographic Exposure*



* Exposures are based on the market values of investments as of 3/31/16

Private Equity Portfolio Performance Details – as of March 31, 2016

Partnership (\$ in thousands)	Strategy	(A) Commitment Amount	Unfunded Amount	(B) Cumulative Contributions	% Drawn	(C) Cumulative Distributions	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	Benchmark ¹	Total Value to Paid In Capital
Vintage Year 2006												
HarbourVest Partners VIII - Buyout Fund L.P.	Fund of Funds	37,500	3,188	34,313	92%	30,834	22,010	52,843	18,531	10.08%	7.53%	1.54x
HarbourVest Partners VIII - Mezzanine and Distressed Debt Fund L.P.	Fund of Funds	5,000	275	4,725	95%	4,126	2,275	6,401	1,676	8.05%	7.53%	1.35x
HarbourVest Partners VIII - Venture Fund L.P.	Fund of Funds	7,500	188	7,313	98%	5,818	6,135	11,952	4,640	10.51%	7.53%	1.63x
Vintage Year 2006 Total		50,000	3,650	46,350	93%	40,777	30,419	71,196	24,846	9.98%	7.42%	1.54x
Vintage Year 2008												
Abbott Capital Private Equity Fund VI, L.P.	Fund of Funds	75,000	10,500	64,500	86%	23,626	58,247	81,873	17,373	9.38%	12.67%	1.27x
Goldman Sachs Private Equity Partners X, L.P.	Fund of Funds	75,000	13,011	67,674	83%	35,982	58,449	94,431	26,757	10.20%	12.67%	1.40x
HarbourVest International Private Equity Partners VI-Partnership Fund L.P.	Fund of Funds	36,566	8,776	31,164	85%	7,890	30,822	38,712	7,548	9.57%	8.74%	1.24x
Vintage Year 2008 Total		186,566	32,287	163,339	85%	67,498	147,519	215,016	51,678	9.82%	9.17%	1.32x
Vintage Year 2011												
Waterland Private Equity Fund V, L.P.	Buyout	18,170	5,917	13,377	74%	15,522	8,614	24,137	10,759	33.84%	7.52%	1.80x
Summit Partners Credit Fund, LP	Opportunistic Credit	20,000	0	20,212	100%	13,950	10,725	24,675	4,463	9.15%	8.79%	1.22x
Khosla Ventures IV	Venture Capital	10,000	950	9,050	91%	956	12,697	13,653	4,603	18.26%	16.66%	1.51x
Vintage Year 2011 Total		48,170	6,867	42,639	88%	30,428	32,037	62,465	19,826	18.76%	11.14%	1.46x
Vintage Year 2012												
Garrison Opportunity Fund III, LLC	Distressed Debt	20,000	0	20,000	100%	5,447	16,068	21,515	1,515	2.91%	10.95%	1.08x
New Enterprise Associates 14	Venture Capital	25,000	2,375	22,625	91%	1,359	30,268	31,627	9,002	17.90%	14.33%	1.40x
Summit Partners Venture Capital III, LP	Venture Capital	16,350	899	15,451	95%	0	19,036	19,036	3,585	10.40%	14.33%	1.23x
Vintage Year 2012 Total		61,350	3,274	58,076	95%	6,806	65,372	72,178	14,102	10.23%	11.33%	1.24x
Vintage Year 2013												
Accel-KKR Capital Partners IV, L.P.	Buyout	15,000	6,494	8,506	57%	1,843	7,726	9,570	1,064	11.43%	9.63%	1.13x
H.I.G. Capital Partners V, L.P.	Buyout	14,000	11,724	2,276	16%	0	1,984	1,984	-291	-8.91%	9.63%	0.87x
Marlin Equity IV, L.P.	Buyout	20,000	11,588	8,412	42%	0	8,528	8,528	115	1.01%	9.63%	1.01x
RRJ Capital Master Fund II, L.P.	Buyout	35,000	6,324	33,427	82%	10,842	29,147	39,989	6,562	13.91%	6.15%	1.20x
H.I.G. Bayside Loan Opportunity Fund III (Europe), L.P.	Distressed Debt	30,000	13,840	16,160	54%	2,809	16,249	19,058	2,899	9.31%	3.37%	1.18x
Wayzata Opportunities Fund III, L.P.	Distressed Debt	30,000	16,650	14,385	45%	1,062	11,578	12,641	-1,744	-11.46%	1.15%	0.88x
Trinity Ventures XI	Venture Capital	25,000	9,063	15,938	64%	0	18,326	18,326	2,389	9.13%	9.52%	1.15x
Vintage Year 2013 Total		169,000	75,682	99,103	55%	16,557	93,539	110,096	10,993	7.65%	7.30%	1.11x
Vintage Year 2014												
Dyal Capital II, L.P.	Buyout	35,000	26,528	8,766	24%	308	7,115	7,424	-1,342	N/M	N/M	0.85x
H.I.G. Europe Capital Partners II, L.P.	Buyout	15,898	15,706	232	1%	0	-228	-228	-459	N/M	-3.03%	-0.98x
Marlin Heritage, L.P.	Buyout	10,000	4,310	5,690	57%	312	5,738	6,050	360	8.16%	8.13%	1.06x
Thoma Bravo Fund XI, L.P.	Buyout	30,000	3,910	26,090	87%	0	27,260	27,260	1,169	N/M	N/M	1.04x
TPG Opportunities Partners III	Distressed Debt	40,000	29,535	13,437	26%	3,417	10,040	13,457	20	0.17%	-0.92%	1.00x
Summit Partners Credit Fund II, L.P.	Opportunistic Credit	35,000	15,203	19,797	57%	439	19,658	20,096	299	2.56%	1.52%	1.02x
Khosla Ventures V, L.P.	Venture Capital	20,000	13,400	6,600	33%	0	6,929	6,929	329	N/M	N/M	1.05x
Spectrum Equity Investors VII, L.P.	Venture Capital	25,000	14,000	11,000	44%	0	10,711	10,711	-289	N/M	N/M	0.97x
Vintage Year 2014 Total		210,898	122,591	91,612	42%	4,476	87,223	91,699	87	0.12%	2.18%	1.00x

¹Benchmarks:

Private Equity Investments: Cambridge Associates median return for the respective strategies and vintage years

Vintage Year Comparison: Cambridge Associates Global Private Equity & Venture Capital median return for the respective vintage years

Private Equity Portfolio: Cambridge Associates Global Private Equity & Venture Capital pooled internal rate of return

Private Equity Portfolio Performance Details – as of March 31, 2016 (continued)

Partnership (\$ in thousands)	Strategy	(A) Commitment Amount	Unfunded Amount	(B) Cumulative Contributions	% Drawn	(C) Cumulative Distributions	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	Benchmark ¹	Total Value to Paid In Capital
Vintage Year 2015												
RRJ Capital Master Fund III, L.P.	Buyout	40,000	38,382	1,618	4%	0	1,413	1,413	-205	N/M	N/M	0.87x
WPEF VI Feeder, L.P.	Buyout	27,255	26,078	1,135	4%	0	542	542	-593	N/M	N/M	0.48x
WPEF VI Overflow Fund C.V.	Buyout	6,814	6,805	9	0%	0	2	2	-7	N/M	N/M	0.18x
Athyrium Opportunities Fund II	Distressed Debt	32,000	15,342	17,531	52%	765	16,635	17,399	-131	N/M	N/M	0.99x
Accel-KKR Growth Capital Partners II, L.P.	Mezzanine	15,000	13,288	1,712	11%	0	1,316	1,316	-396	-27.02%	2.43%	0.77x
New Enterprise Associates 15, L.P.	Venture Capital	35,000	24,500	10,504	30%	0	10,592	10,592	87	N/M	N/M	1.01x
Summit Partners Venture Capital IV, L.P.	Venture Capital	35,000	35,000	0	0%	0	-76	-76	-76	N/M	N/M	N/A
Vintage Year 2015 Total		191,068	159,395	32,508	17%	765	30,422	31,187	-1,321	-6.98%	-10.23%	0.96x
Vintage Year 2016												
Accel-KKR Capital Partners V, LP	Buyout	25,000	25,000	0	0%	0	N/A	0	0	N/M	N/M	N/A
Linden Capital Partners III L.P.	Buyout	35,000	35,000	0	0%	0	-678	-678	-678	N/M	N/M	N/A
TSG7 A L.P.	Buyout	16,000	15,912	88	1%	0	80	80	-9	N/M	N/M	0.90x
TSG7 B L.P.	Buyout	4,000	3,749	251	6%	0	219	219	-31	N/M	N/M	0.87x
Atalaya Special Opportunities Fund VI, L.P.	Distressed Debt	25,000	25,000	0	0%	0	223	223	223	N/M	N/M	N/A
Trinity Ventures XII, L.P.	Venture Capital	30,000	30,000	0	0%	0	N/A	0	0	N/M	N/M	N/A
Vintage Year 2016 Total		135,000	134,661	339	0%	0	-156	-156	-495	N/M	N/M	-0.46x
Portfolio Total:		1,052,053	538,407	533,966	49%	167,306	486,376	653,682	119,716	9.67%	9.74%	1.22x
Portfolio Strategy Totals												
Buyout		204,000	144,214	60,079	29%	2,464	57,973	60,436	357	0.61%		1.01x
Distressed Debt		147,000	86,526	65,353	41%	10,692	54,544	65,236	-117	-0.13%		1.00x
Fund of Funds		200,000	27,161	178,524	86%	100,385	147,116	247,500	68,976	9.91%		1.39x
Mezzanine		15,000	13,288	1,712	11%	0	1,316	1,316	-396	-27.02%		0.77x
Opportunistic Credit		55,000	15,203	40,009	72%	14,388	30,383	44,771	4,763	7.98%		1.12x
Venture Capital		221,350	130,187	91,168	41%	2,314	108,484	110,798	19,630	12.64%		1.22x
Non-US		209,703	121,828	97,121	44%	37,063	86,562	123,625	26,504	14.13%		1.27x
Portfolio Total:		1,052,053	538,407	533,966	49%	167,306	486,376	653,682	119,716	9.67%	9.74%	1.22x

¹Benchmarks:

Private Equity Investments: Cambridge Associates median return for the respective strategies and vintage years

Vintage Year Comparison: Cambridge Associates Global Private Equity & Venture Capital median return for the respective vintage years

Private Equity Portfolio: Cambridge Associates Global Private Equity & Venture Capital pooled internal rate of return

Real Assets Portfolio – as of March 31, 2016

The Real Assets portfolio’s net IRR since inception is 5.07% including the overlay performance, and 7.63% without the overlay

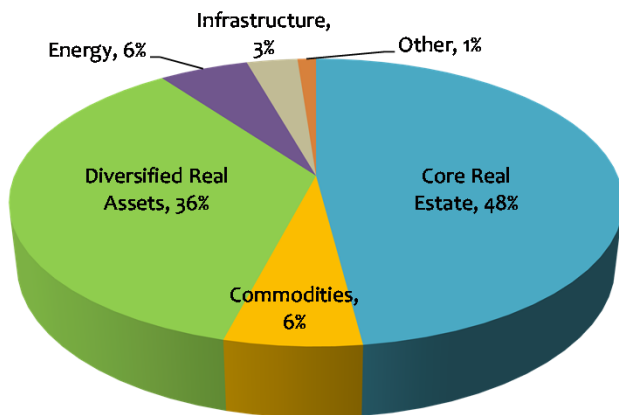
- The benchmark returned 7.16% during this period (benchmark equals CPI+5%)

Significant commodity price volatility in Q1, particularly within energy; crude oil ended the quarter down 4.1% (WTI)

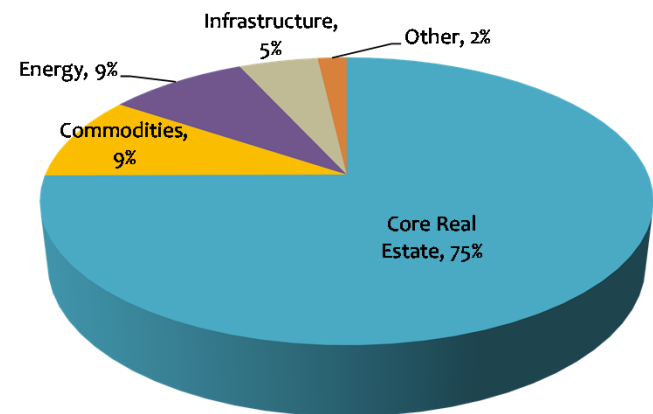
- Commodities fell 3% and MLPs declined 4.2%, though natural resource equities jumped 9% in Q1
- SSgA Real Assets returned 4.2% during the quarter, just ahead of the benchmark’s 4.1% return
 - Performance benefitted primarily from listed infrastructure and natural resource equities exposure
- Blackstone Commodities gained 1.4% and Gresham declined 0.3%; the benchmark gained 0.4%
- SCERS core real estate posted modest gains during the quarter; performance across managers was somewhat mixed

Changes during the quarter

- SCERS made no new commitments during Q1 2016
 - Committed \$40 million to Brookfield Infrastructure Fund III (infrastructure) in Q2 2016
- \$16.8 million in new contributions, \$53.7 million in distributions (largely real estate and SSgA overlay rebalancings)
- Portfolio IRR decreased 0.32%, total portfolio gain decreased by \$18 million



Portfolio Strategy Exposures*
With overlay (left graph)
Without overlay (right graph)



* Exposures are based on the market values of investments as of 3/31/16

Real Assets Portfolio Performance Details – as of March 31, 2016

Partnership (\$ in thousands)	Strategy	(A) Commitment Amount	Unfunded Amount	(B) Cumulative Contributions	% Drawn	(C) Cumulative Distributions	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	Benchmark ¹	Total Value to Paid in Capital
Vintage Year 1998												
BlackRock Realty Portfolio I	Core RE	815,454	0	815,454	100.00%	996,748	162,184	1,158,932	343,478	12.02%	8.93%	1.42x
Vintage Year 1998 Total		815,454	0	815,454	100.00%	996,748	162,184	1,158,932	343,478	12.02%		1.42x
Vintage Year 2002												
BlackRock Realty Portfolio II	Core RE	130,515	0	130,515	100.00%	172,819	25,253	198,071	67,556	8.52%	8.24%	1.52x
Vintage Year 2002 Total		130,515	0	130,515	100.00%	172,819	25,253	198,071	67,556	8.52%		1.52x
Vintage Year 2004												
*Cornerstone Patriot Fund	Core RE	50,000	0	50,000	100.00%	94,447	0	94,447	44,447	6.51%	8.08%	1.89x
Cornerstone Real Estate	Core RE	254,736	0	254,736	100.00%	240,912	84,624	325,536	70,800	5.00%	8.22%	1.28x
Vintage Year 2004 Total		304,736	0	304,736	100.00%	335,359	84,624	419,983	115,247	5.49%		1.38x
Vintage Year 2005												
*BlackRock Granite Property Fund	Core RE	70,434	0	70,434	100.00%	62,599	0	62,599	-7,835	-2.05%	5.04%	0.89x
Vintage Year 2005 Total		70,434	0	70,434	100.00%	62,599	0	62,599	-7,835	-2.05%		0.89x
Vintage Year 2008												
Blackstone Resources Select Fund	Commodities	60,000	0	60,000	100.00%	0	36,515	36,515	-23,485	-6.29%	-9.86%	0.61x
Gresham Strategic Commodities Fund Ltd.	Commodities	60,000	0	60,000	100.00%	0	23,262	23,262	-36,738	-11.37%	-9.86%	0.39x
State Street Real Assets Strategy	Diversified RA	1,023,874	0	1,025,918	100.00%	540,979	353,163	894,142	-131,776	-8.62%	-0.92%	0.87x
Vintage Year 2008 Total		1,143,874	0	1,145,918	100.00%	540,979	412,941	953,919	-191,998	-8.61%		0.83x
Vintage Year 2013												
Jamestown Premier Property Fund	Core RE	15,000	0	17,124	100.00%	2,459	19,536	21,995	4,871	13.34%	13.22%	1.28x
MetLife Core Property Fund	Core RE	35,000	0	38,528	100.00%	3,528	48,321	51,849	13,321	15.42%	13.22%	1.35x
MS Prime Property Fund	Core RE	35,000	0	38,919	100.00%	3,919	47,881	51,800	12,881	13.74%	13.38%	1.33x
EnCap Energy Capital Fund IX, L.P.	Energy	33,000	13,561	21,883	58.91%	4,834	18,145	22,979	1,097	3.70%	-21.18%	1.05x
Vintage Year 2013 Total		118,000	13,561	116,454	88.51%	14,741	133,883	148,624	32,170	13.08%		1.28x
Vintage Year 2014												
Carlyle Power Partners II, L.P.	Energy	40,000	31,882	8,371	20.30%	0	6,480	6,480	-1,891	N/M	N/M	0.77x
EnCap Flatrock Midstream Fund III, L.P.	Energy	20,000	17,285	3,286	13.58%	949	2,899	3,847	562	N/M	N/M	1.17x
First Reserve Energy Infrastructure Fund II, L.P.	Energy	35,000	29,627	5,373	15.35%	0	5,138	5,138	-235	-7.92%	-6.50%	0.96x
Quantum Energy Partners VI, LP	Energy	35,000	28,937	6,787	17.32%	1,771	5,949	7,719	933	N/M	N/M	1.14x
Pantheon SCERS SIRF MM, LLC	Infrastructure	100,000	80,000	20,000	20.00%	0	30,940	30,940	10,940	N/M	N/M	1.55x
Wastewater Opportunity Fund	Infrastructure	25,000	23,857	1,165	4.57%	0	525	525	-639	N/M	N/M	0.45x
Vintage Year 2014 Total		255,000	211,589	44,980	17.02%	2,719	51,931	54,650	9,669	24.64%		1.21x

¹ Benchmarks:

Commodities Investments: Dow Jones UBS Commodity Index + 1%

Core RE Investments: NFI-ODCE

Diversified RA Investments: Manager's stated custom blended index

¹ Benchmarks:

Energy Investments: Cambridge Associates median return for the respective vintage years.

Real Assets Portfolio: CPI + 5%

Real Assets Portfolio Performance Details – as of March 31, 2016 (continued)

Partnership (\$ in thousands)	Strategy	(A)		(B)		(C)		(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	Benchmark ¹	Total Value to Paid in Capital
		Commitment Amount	Unfunded Amount	Cumulative Contributions	% Drawn	Cumulative Distributions							
Vintage Year 2015													
Principal U.S. Property Fund	Core RE	35,000	0	35,000	100.00%	0	36,639	36,639	1,639	N/M	N/M	N/A	1.05x
Prologis Targeted Europe Logistics Fund	Core RE	31,326	0	31,324	100.00%	311	31,917	32,228	904	N/M	N/M	N/A	1.03x
Prologis Targeted US Logistics Fund	Core RE	35,000	21,000	14,000	40.00%	442	14,962	15,403	1,403	N/M	N/M	N/A	1.10x
Townsend Real Estate Fund, L.P.	Core RE	70,000	70,000	0	0.00%	0	N/A	0	0	N/M	N/M	N/A	N/A
ArcLight Energy Partners VI, L.P.	Energy	40,000	25,712	14,288	35.72%	0	13,267	13,267	-1,021	N/M	N/M	N/A	0.93x
EnCap Energy Capital Fund X, L.P.	Energy	40,000	35,718	4,282	10.70%	0	3,432	3,432	-850	N/M	N/M	N/A	0.80x
Atalaya Real Assets SMA	Other	100,000	88,617	13,700	11.38%	2,714	11,471	14,185	485	N/M	N/M	N/A	1.04x
Vintage Year 2015 Total		351,326	241,047	112,595	31.39%	3,466	111,689	115,155	2,560	N/M	N/M	N/A	1.02x
Vintage Year 2016													
IFM Global Infrastructure Fund	Infrastructure	75,000	75,000	0	0.00%	0	N/A	0	0	0	N/M	N/M	N/A
Vintage Year 2016 Total		75,000	75,000	0	0.00%	0	0	0	0	0	N/M	N/M	N/A
Portfolio Total:		3,264,339	541,197	2,741,086	83.42%	2,129,430	982,503	3,111,933	370,847	5.07%	7.16%	N/A	1.14x
Portfolio Strategy Totals													
Commodities		120,000	0	120,000	100.00%	0	59,778	59,778	-60,222	-8.60%	N/A	N/A	0.50x
Core RE		1,546,139	91,000	1,464,710	94.11%	1,577,873	439,399	2,017,272	552,562	9.09%	N/A	N/A	1.38x
Diversified RA		1,023,874	0	1,025,918	100.00%	540,979	353,163	894,142	-131,776	-8.62%	N/A	N/A	0.87x
Energy		243,000	182,722	64,269	24.81%	7,553	55,310	62,863	-1,406	-2.95%	N/A	N/A	0.98x
Infrastructure		125,000	103,857	21,165	16.91%	0	31,465	31,465	10,301	N/M	N/A	N/A	1.49x
Other		100,000	88,617	13,700	11.38%	2,714	11,471	14,185	485	N/M	N/A	N/A	1.04x
Non-US		106,326	75,000	31,324	29.46%	311	31,917	32,228	904	N/M	N/A	N/A	1.03x
Portfolio Total:		3,264,339	541,197	2,741,086	83.42%	2,129,430	982,503	3,111,933	370,847	5.07%	7.16%	N/A	1.14x
Active / Liquidated Partnership Totals													
Active Partnerships		3,143,905	541,197	2,620,652	82.79%	1,972,384	982,503	2,954,887	334,235	5.35%	N/A	N/A	1.13x
Liquidated Partnerships		120,434	0	120,434	100.00%	157,046	0	157,046	36,612	3.42%	N/A	N/A	1.30x
Portfolio Total:		3,264,339	541,197	2,741,086	83.42%	2,129,430	982,503	3,111,933	370,847	5.07%	7.16%	N/A	1.14x

*Liquidated funds

¹ Benchmarks:

Commodities Investments: Dow Jones UBS Commodity Index + 1%

Core RE Investments: NFI-ODCE

Diversified RA Investments: Manager's stated custom blended index

¹ Benchmarks:

Energy Investments: Cambridge Associates median return for the respective vintage years.

Real Assets Portfolio: CPI + 5%

Opportunities Portfolio – as of March 31, 2016

The Opportunities portfolio's net IRR since inception is 8.73%

- The long-term benchmark is SCERS' 7.50% total portfolio actuarial return objective
- Also tracking the portfolio's 3 year IRR versus an intermediate-term benchmark
 - 10.28% portfolio IRR v 4.94% IRR for the SCERS' total portfolio policy weighted benchmark over the last 3 years

Distressed debt has outperformed, while value-add real estate has struggled; opportunistic real estate is performing well

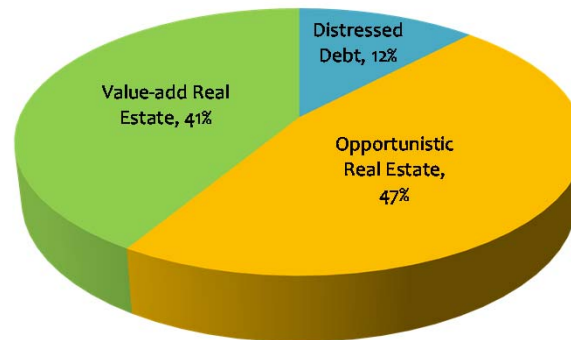
- SCERS' earlier vintage distressed debt funds are liquidated and have distributed significant capital back to SCERS
 - Stone Tower, MetWest TALF, and PIMCO have distributed \$129.3 million through March 31, 2016
- Older vintage value-add real estate funds continue to show some improvement although performance remains poor
- Recent vintage value-add real estate funds are off to a strong start

Changes during the quarter

- SCERS made no new commitments during Q1 2016
- \$9.6 million in new contributions, \$7.3 million in distributions
- Portfolio IRR unchanged, total portfolio gain increased by \$3.4 million

Almost all of SCERS' more recent Opportunities commitments have been to Real Estate funds (Value Add and Opportunistic)

Market Value Strategy Exposure
(Fair Market Value as of 3/31/16)



Opportunities Portfolio Performance Details – as of March 31, 2016

Partnership (\$ in thousands)	Strategy	(A) Commitment Amount	Unfunded Amount	(B) Cumulative Contributions	% Drawn	(C) Cumulative Distributions	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	Benchmark ¹	Total Value to Paid in Capital
Vintage Year 2006												
UBS Allegis Value Trust	Value-Add RE	25,550	0	25,550	100.00%	7,859	23,208	31,068	5,517	2.77%	9.21%	1.22x
Vintage Year 2006 Total		25,550	0	25,550	100.00%	7,859	23,208	31,068	5,517	2.77%		1.22x
Vintage Year 2007												
*PIMCO Distressed Mortgage Fund, LP	Distressed Debt	18,000	0	18,000	100.00%	25,384	0	25,384	7,384	8.96%	8.10%	1.41x
AEW Value Investors II, L.P.	Value-Add RE	25,000	0	21,813	100.00%	25,346	2,854	28,200	6,387	6.05%	8.66%	1.29x
Hines US Office Value Added Fund II, L.P.	Value-Add RE	25,000	3,273	24,144	86.91%	7,489	7,001	14,490	-9,654	-8.00%	8.89%	0.60x
Vintage Year 2007 Total		68,000	3,273	63,957	94.95%	58,219	9,855	68,074	4,117	1.37%		1.06x
Vintage Year 2008												
*PIMCO Distressed Mortgage Fund II, L.P.	Distressed Debt	12,000	0	12,000	100.00%	35,277	0	35,277	23,277	34.39%	12.25%	2.94x
Vintage Year 2008 Total		12,000	0	12,000	100.00%	35,277	0	35,277	23,277	34.39%		2.94x
Vintage Year 2009												
*MetWest Enhanced TALF Strategy Fund LP	Distressed Debt	20,000	0	20,000	100.00%	25,304	0	25,304	5,304	11.21%	14.78%	1.27x
*Stone Tower Structured Credit Recovery Fund LP	Distressed Debt	25,000	0	25,248	100.00%	43,383	0	43,383	18,135	25.30%	14.78%	1.72x
Vintage Year 2009 Total		45,000	0	45,248	100.00%	68,687	0	68,687	23,439	19.71%		1.52x
Vintage Year 2013												
Atalaya Special Opportunities Fund V, L.P.	Distressed Debt	25,000	1,117	24,875	95.53%	8,931	19,652	28,583	3,708	9.73%	1.15%	1.15x
DRC European Real Estate Debt Fund II, L.P.	Opportunistic RE	45,118	10,484	36,521	81.75%	4,730	33,471	38,201	1,680	3.20%	14.03%	1.05x
KKR Real Estate Partners Americas	Opportunistic RE	35,000	17,885	22,559	48.90%	9,350	18,923	28,273	5,714	20.79%	14.03%	1.25x
Vintage Year 2013 Total		105,118	29,486	83,955	74.09%	23,011	72,046	95,057	11,102	9.36%		1.13x
Vintage Year 2014												
CIM Fund VIII, LP	Opportunistic RE	35,000	22,331	14,805	36.20%	322	15,201	15,523	718	N/M	N/M	1.05x
Och-Ziff Real Estate Fund III	Opportunistic RE	35,000	27,702	8,275	20.85%	190	7,825	8,015	-260	N/M	N/M	0.97x
NREP Nordic Strategies Fund, FIS-FCP	Value-Add RE	22,371	4,474	18,291	80.64%	1,005	21,742	22,748	4,457	N/M	N/M	1.24x
Vintage Year 2014 Total		92,371	54,508	41,370	41.15%	1,517	44,769	46,286	4,915	N/M		1.12x

¹ Benchmarks:

Opportunistic RE Investments: NCREIF + 2%

Value-Add RE Investments: NCREIF + 2%

Distressed Debt: U.S. Cambridge Associates LLC

Total Opportunities Portfolio (long-term benchmark): 7.50% actuarial return objective

² Internal rate of return based upon the policy weighted benchmark for SCERS' total portfolio using the Opportunities portfolio cash flows.

Opportunities Portfolio Performance Details – as of March 31, 2016 (continued)

Partnership (\$ in thousands)	Strategy	(A)		(B)		(C)		(D)	(C+D)	(C+D-B)	Net IRR	Benchmark ¹	Total Value to Paid in Capital
		Commitment Amount	Unfunded Amount	Cumulative Contributions	% Drawn	Cumulative Distributions	Fair Value	Total Value	Gain/Loss				
Vintage Year 2015													
ECE European Prime Shopping Centre Fund II, SCS SIF	Value-Add RE	35,204	29,175	5,913	16.80%	318	6,397	6,714	801	N/M	N/M	1.14x	
Hammes Partners II, LP	Value-Add RE	25,000	18,850	6,150	24.60%	634	5,794	6,428	277	N/M	N/M	1.05x	
NREP Nordic Strategies Fund II SCSp	Value-Add RE	36,339	36,339	0	0.00%	0	N/A	0	0	N/M	N/M	N/A	
Vintage Year 2015 Total		96,543	84,363	12,064	12.50%	951	12,191	13,142	1,078	N/M		1.09x	
Portfolio Total:		444,583	171,631	284,144	61.63%	195,520	162,070	357,590	73,447	8.73%	7.50%	1.26x	
Portfolio Strategy Totals													
Distressed Debt		100,000	1,117	100,123	98.88%	138,279	19,652	157,931	57,809	18.92%		1.58x	
Opportunistic RE		105,000	67,919	45,638	35.32%	9,861	41,950	51,811	6,173	13.12%		1.14x	
Value-Add RE		100,550	22,123	77,658	77.28%	41,328	38,858	80,185	2,527	0.58%		1.03x	
Non-US		139,033	80,472	60,725	43.76%	6,053	61,610	67,663	6,938	9.73%		1.11x	
Portfolio Total:		444,583	171,631	284,144	61.63%	195,520	162,070	357,590	73,447	8.73%	7.50%	1.26x	
Active / Liquidated Partnership Totals													
Active Partnerships		369,583	171,631	208,896	53.78%	66,172	162,070	228,242	19,346	3.09%		1.09x	
Liquidated Partnerships		75,000	0	75,248	100.00%	129,348	0	129,348	54,100	19.50%		1.72x	
Portfolio Total:		444,583	171,631	284,144	61.63%	195,520	162,070	357,590	73,447	8.73%	7.50%	1.26x	

*Liquidated funds

3-Year IRR	
SCERS Opportunistic portfolio	10.28%
SCERS policy benchmark ²	4.94%

¹ Benchmarks:

Opportunistic RE Investments: NCREIF + 2%

Value-Add RE Investments: NCREIF + 2%

Distressed Debt: U.S. Cambridge Associates LLC

Total Opportunities Portfolio (long-term benchmark): 7.50% actuarial return objective

² Internal rate of return based upon the policy weighted benchmark for SCERS' total portfolio using the Opportunities portfolio cash flows.

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